MATTER BEFORE THE

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FEDERAL COMMUNICATIONS COMMISSION
1919 M Street, N.W., Room 222
Washington, D.C. 20554 USA

RM 9096

Regarding - Petition of ITS America seeking an allocation of 75 MHZ of spectrum in the range of 5.850-5.925 GHz for use by intelligent transportation systems.

Comments of the
International Bridge, Tunnel and Turnpike Association

The International Bridge, Tunnel and Turnpike Association (IBTTA) hereby submits comments in support of a petition for rule making filed May 19, 1997 by the Intelligent Transportation Society of America (ITS America) seeking an allocation of 75 MHZ of spectrum in the 5.850-5.925 GHz band for use by intelligent transportation systems.

Background

IBTTA is the not-for-profit trade association representing the worldwide toll industry. Our members operate more than 525 toll facilities in 21 countries. In the United States, our members include more than 50 toll authorities operating some 135 toll roads, bridges or tunnels. These facilities encompass almost 5,000 miles of roadway, serving some 3.35 billion vehicles each year.

Toll facility operators are acknowledged early leaders in the application of Intelligent Transportation Systems (ITS) through their implementation of dedicated short range communications (DSRC) devices in support of Electronic Toll & Traffic Management technologies (ETTM).

Toll financing is an effective mechanism to finance the design, construction, operation and maintenance of road capacity. The toll industry has more than 50 years of successful experience providing modern-era roadways in the United States alone.

The nation's current highway law, the 1991 Intermodal Surface Transportation Efficiency Act, encourages a greater reliance on tolls, and all indications point toward increased use of toll financing in the nation's future.

Electronic toll collection, made possible through the application of DSRC technologies, holds the potential for greatly improving the operational efficiency of the transportation system,

and for enhancing customer satisfaction and safety. The use of electronic tolling has been credited with:

I. boosting traffic capacity on existing and new facilities
2• improving traffic flow though toll plazas
3• enhancing the safety of the traveling public
4• improving air quality as queuing at toll plazas is reduced
5• reducing operational costs

The Use of ETTM

In 1989, toll agencies around the nation began implementing state-of-the-art ETTM systems that proved successful and popular. Now, more than half of the major toll facilities in the United States have either installed ETTM equipment or have plans to do so within the next several years.

A recent survey of U.S. toll agencies indicates capital outlays for ETTM systems will soon exceed $766 million. As of July 1997, almost 1.8 million transponders have been issued to private vehicle operators, with another 220,000 in use by commercial vehicles.

These systems are likely to expand, and in addition, new ETTM installations over the next several years is expected to add another 1.3 million tags for private users, and 275 million additional commercial vehicle tags.

At many of the most heavily traveled toll facilities, up to 75 percent of traffic at peak commuting periods takes advantage of ETTM technology to help expedite their passage.

The Need for a Migration Strategy

As noted above, as well as in prior submissions IBTTA has made to the Commission on related issues, toll agencies have made significant investments in DSRC technologies currently operating in the 902-928 MHZ range.

Because these data transmissions represent financial transactions between the toll agencies and their customers (who, in some cases, are traveling at highway speeds), there is an absolute need for secure and uninterrupted communication and interchange of information. To date, interference with other applications operating in 902-928 MHZ range has not been a significant problem, but concerns have been expressed that, as these ranges become more congested in the future, there may be greater impacts on electronic tolling operations.

Toll agency officials realize that technology advances and change is inevitable. However, they have procured complex and expensive ETTM systems, the components of which are

installed partly in the toll plazas, and also spread among millions of drivers in the form of transponders.

Any decision to upgrade the technology, including operations in a different spectrum range, will have an impact not only on the hardware used roadside or at the toll plaza, but can also necessitate the replacement of these huge numbers of transponders in the hands of the customers. Before they make changes in technology, toll agencies must weigh the enormous logistical, financial, operational and marketing factors associated with such actions.

For this reason, while toll officials can appreciate the value of establishing a spectrum range to be used in the future, particularly as existing ETTM systems reach the end of their reasonable life spans, they are very concerned by any suggestions that, upon establishing such a "safe reservation", they might be forced, overtly or indirectly, to procure new hardware that can operate in these other spectrum ranges, and/or shift their operations to another range earlier than the economics of their particular situation might dictate, or that their customers would desire.

For these reasons, **it is imperative that toll agencies with existing ETTM operations be given a reasonable opportunity to amortize their technology investments in the 902-928 MHz range, even well after the 5.8 GHz range is made available**.

Further, it is vitally important that both ranges remain available for DSRC applications to allow for the development, testing, manufacture and integration of devices operating in the higher ranges while existing installations remain in service.

Granting the ITS America petition will allow technology developers, manufacturers and integrators the assurance they need to devote resources towards developing new systems to operate in these ranges. Adequate time will be needed to allow for extensive re-engineering and testing of any new applications and systems to prove them reliable and accurate enough to satisfy the needs of toll authorities and their customers. And, once these newer systems operating at higher ranges are proved, additional time will also be needed to allow for their manufacture, installation and integration into toll operations.

The Move Toward Inter-Operability

As ETTM proliferates, there is a growing trend towards inter-operability, where one toll system can recognize and read the transponder issued to a driver by another agency. While this technical ability alone doesn't provide for seamless access to different toll facilities (drivers must establish either dual accounts, or the various toll facilities must enter into business agreements to honor the charges incurred by their clients on other facilities), this is clearly the route many regions of the country are moving toward.

This trend illustrates the potential for inter-operable ETTM systems that could allow non-stop passage through entire regions of the country with a single transponder. Such wide-ranging access and the minimization of the number of accounts or tags a driver must maintain is of great interest to commercial vehicle operators (CVO), who want to improve their efficiency and reduce the amount of unnecessary time their drivers spend on any road.

The CVO community is actively pursuing the application of DSRC technologies to support not only electronic payments, but also to provide for the electronic distribution of permits, licences, safety information and other documents that could reduce the delays a truck shipment can currently encounter.

Ultimately, it is generally anticipated that the hardware to support these various transportation applications will be wired into the vehicle harnesses themselves at the assembly plant, providing universal access to these informational and payments systems. Clearly, this is a robust and growing market and ensuring adequate radio spectrum at this time to support these future demands is critical to its eventual success.

Conclusion

IBTTA appreciates the Commission's interest in the matter to secure necessary spectrum for a vitally important range of applications that will greatly benefit the nation's economy and mobility.

In conclusion, we support the creation of a reserved segment of spectrum for DSRC applications for future use, but we must also reiterate our concern that the major investments already made by toll facilities in technologies working in the 902-928 MHz range continue to be supported even as steps to support even broader use of DSRC technologies is undertaken.

We urge the Commission to support the ITS America petition and complete this process in an expeditious manner.

Respectfully submitted,

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